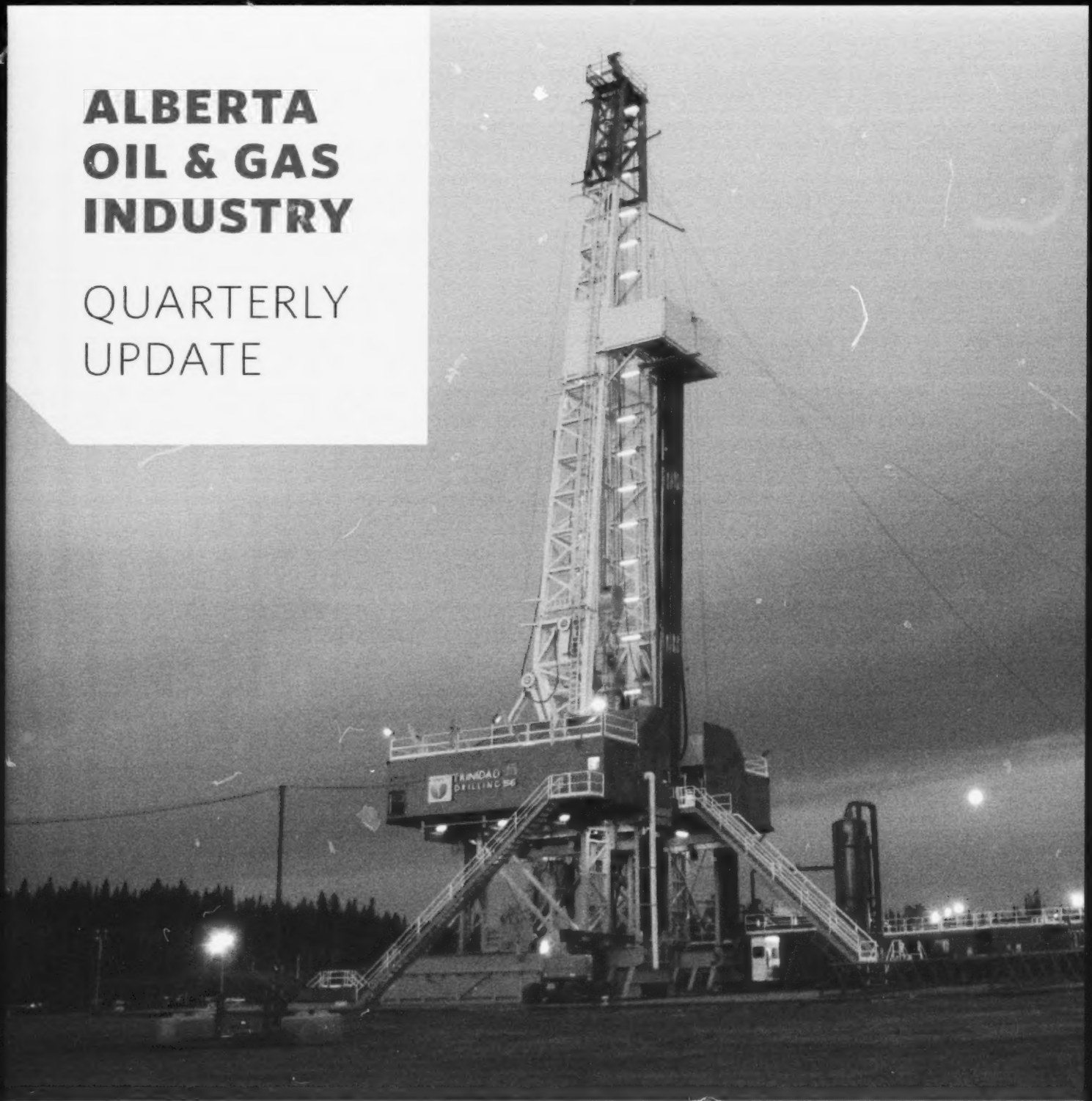
ALBERTA OIL & GAS INDUSTRY

QUARTERLY UPDATE



SUMMER 2017

Reporting period:
MARCH 21, 2017, TO JUNE 2, 2017

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ALL ABOUT ALBERTA'S OIL & GAS INDUSTRY

ABUNDANT: ALBERTA'S CRUDE OIL, NATURAL GAS AND NATURAL GAS LIQUIDS RESOURCES

Alberta's vast crude oil and natural gas resources are the backbone of the provincial economy and a vital element of Canada's economy. In fact, energy development is the largest contributor to the province's gross domestic product, capital investments and exports.

The increased implementation of long horizontal wells and multistage fracturing in tight sand and shale resource plays across the province—not to mention attractive provincial royalty incentives to encourage drilling—have allowed industry to extract crude, natural gas and natural gas liquids (NGLs) from resource bases that had previously been essentially untapped.

In Alberta, the advanced drilling and hydraulic fracturing technology is being used in an increasing number of oil plays. Among the most advanced plays are the Cardium in west-central Alberta and the Viking in east-central Alberta. More importantly, emerging liquids-rich plays like the Montney and the Duvernay continue to show great promise.

Although drilling activity has slowed the past few years because of the weak global commodity price environment, capital spending and drilling activity is slowly picking up in 2017 as prices have modestly rebounded. Many producers continue to report improved results and liquids yields from their Duvernay and Montney programs.

Faced with continued low global crude oil prices and weak natural gas prices, Alberta producers sought additional cost savings and curtailed capital budgets and activity in 2016. Capital expenditures fell for a second year. Conventional oil and gas wells placed on production dropped by 37.2 per cent in 2016 relative to 2015, and crude oil production and natural gas production declined as a result.

However, some positive news also emerged in 2016. The Canadian government approved two major crude oil pipeline projects: the twinning of the Kinder Morgan Trans Mountain Pipeline to Canada's west coast and the replacement of the Enbridge Line 3 pipeline to the U.S. Midwest. These projects, if completed, will increase Alberta's export capacity, and the Trans Mountain Pipeline will open up market access to Asia.

According to the Alberta Energy Regulator (AER), in 2016, Alberta produced 67 per cent of Canada's natural gas and 81 per cent of Canada's oil and equivalent. More than 60 per cent of Canada's total oil and equivalent production was marketable bitumen.

Conventional crude oil production in 2016 was an estimated 441,000 bbls/d, a decrease of about 16 per cent from 2015 due to lower crude oil prices, which resulted in fewer wells placed on production.

Overall marketable natural gas production in Alberta, which includes growing liquids-rich shale/tight gas volumes, increased for the second year in a row in 2015, growing by 2.2 per cent to 298.6 million cubic metres per day from 292.1 million cubic metres, due to the lag effect from high drilling levels in 2014.

However, in 2016 production of natural gas declined year over year for the first time since 2013, with production estimated to have decreased by 1.8 per cent to 291.9 million cubic metres a day.

Despite the decrease in overall production, production from the Montney and Upper Mannville formations continued to grow, contributing 42 per cent of Alberta's raw natural gas production in 2016, up from 38.2 per cent in 2015. Production gains in these areas were largely associated with new wells placed on production using horizontal multistage fracturing, clearly illustrating the importance of production from these prolific wells.

Raw natural gas as it comes from the wellhead is mostly comprised of methane (the largest constituent of household natural gas), but it also contains various NGLs. Alberta is a major producer of NGLs, which consist of ethane, propane, butanes and pentanes plus.

In 2016, the Alberta government announced a Petrochemicals Diversification Program that will give $500 million in incentives through royalty credits to new petrochemical facilities in Alberta. To get up and running, these facilities will need certain NGLs as ingredients, or "feedstock."

Alberta is already a leading petrochemical manufacturing province, home to four major ethylene plants with a combined annual production capacity of 8.6 billion pounds. Two of these plants—at Joffre and Fort Saskatchewan—are among the world's largest.

Many investment opportunities exists in Alberta's refining and petrochemical sector, particularly in Alberta's Industrial Heartland, a 589-square-kilometre region northeast of Edmonton that is home to Canada's largest concentration of petrochemical and chemical processors and petroleum refining. ■

NOTE: This publication contains information about Alberta's oil and gas industry, excluding the oil sands. For information on the oil sands, please refer to the *Alberta Oil Sands Industry Quarterly Update* on this website.

Cover photo: *Trinidad Drilling*
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OIL PLAYS

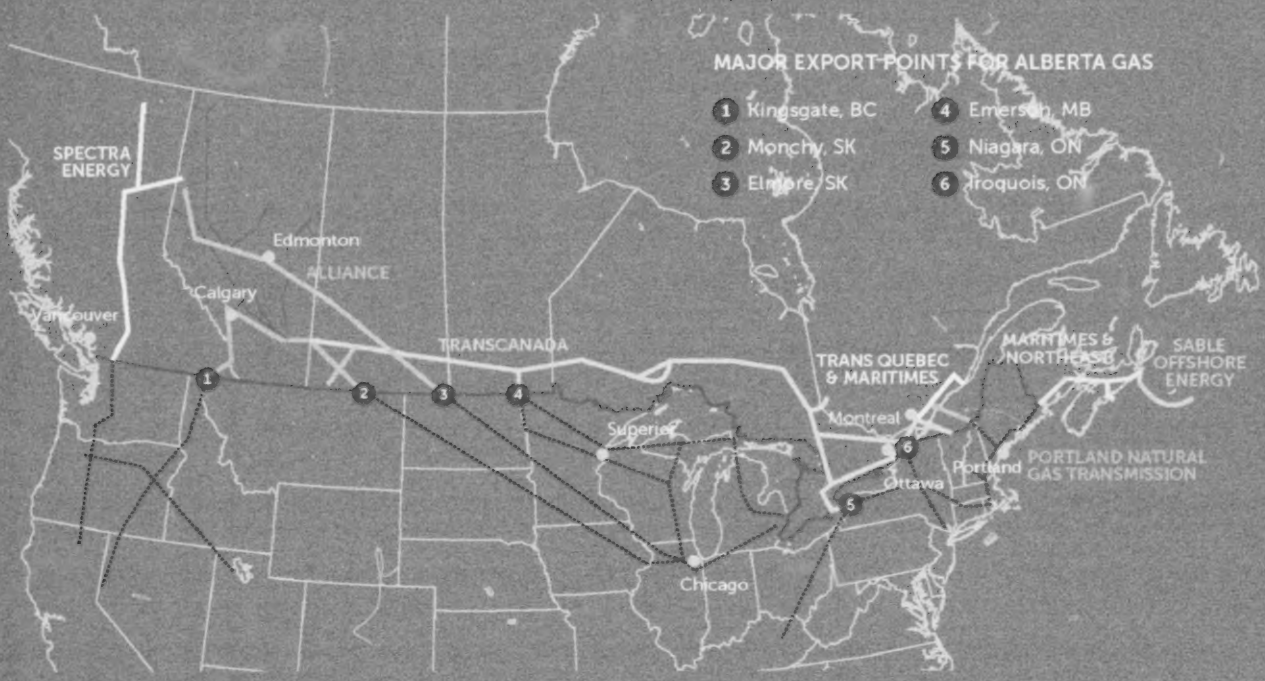
The Alberta Energy Regulator (AER) estimates that the province has 1.8 billion barrels of remaining established reserves of conventional crude oil, with ultimate potential (recoverable) of 19.7 billion barrels. The remaining established reserves of conventional crude oil in Alberta represent more than one-third of Canada's remaining conventional reserves.

In 1994, based on the geological prospects at that time, the AER estimated the ultimate potential of conventional crude oil to be 19.7 billion barrels. Given recent reserve growth in low-permeability, or tight oil, plays, the AER believes that this estimate may be low.

NATURAL GAS PLAYS

While the majority of the province's natural gas is still produced from conventional sources, the potential to grow natural gas volumes from coal, shale and tight formations will also be strong contributors going forward.

Alberta has a large natural gas resource base, with remaining established reserves of about 33 tcf and an estimated potential of up to 500 tcf of natural gas from the coal-bed methane resource. In addition, a large-scale resource assessment of shale gas potential in Alberta is underway and could significantly add to the natural gas prospects for the province.



TOP PLAYS

Photo: Trilogy Energy

THE DUVERNAY: LIVING UP TO ITS PROMISE

Over the next 30 years the Alberta Energy Regulator (AER) expects approximately 8,200 wells to be drilled in the Duvernay, at least according to authors of a reserves and resources report regarding the liquids-rich shale resource.

"I think we all know it is big, but it is really big when you look at the resource-in-place estimates," Krista Beavis, geologist in the AER reserves and resources branch, told a recent Canadian Society for Unconventional Resources (CSUR) technical luncheon. "What our report has done has given estimates for that bit of the 'iceberg' we actually see transitioning to reserves in the next 30 years, which is just a portion of the iceberg."

Released late last year, the AER report suggests the Duvernay contains estimated proved plus probable reserves of 395 mmboe, a best-estimate unrisked continent resource of about 1.68 billion boe and an 864 million boe risked best-estimate prospective resource.

Adam Preston, reservoir engineer at the AER and fellow reserves and resources report author, said the first step in the engineering reserves evaluation was to analyze what has already occurred in the Duvernay. Looking into the future, he added, the number of wells coming on production will increase each year.

"Because we don't have corporate budgets and we can't ask anybody...for a 30-year outlook, we kind of had to come up with this...methodology," he said, adding the report authors are fairly confident their approach offers a decent forecast. "Based on the size of the Duvernay, there is a huge potential for future development there."

The report considers wells that were on stream as of Dec. 31, 2015. For the updated report to be released at the end of this year, the AER is considering wells up to Dec. 31, 2016. The analysts extrapolate out the cumulative condensate-gas ratio (CGR) versus cumulative gas production in their research, eventually creating a CGR "heat map" that shows where condensate yields are higher, and carrying out declines over the next three decades.

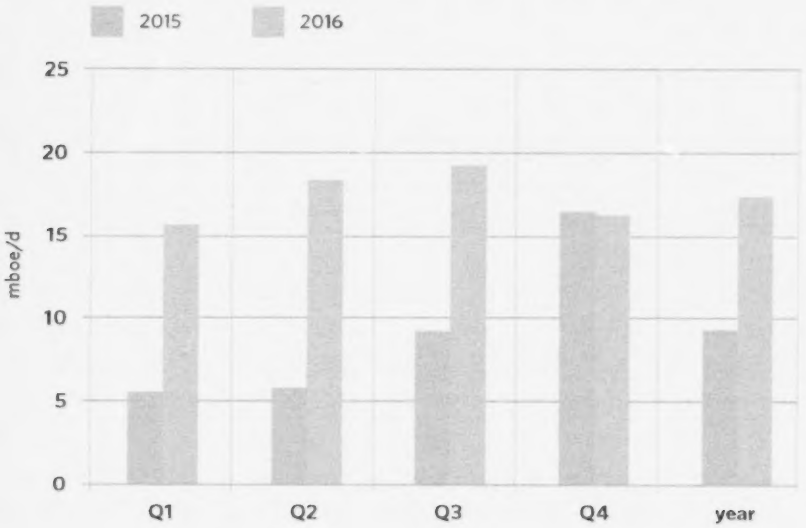
"After we came up with what has already been happening in the Duvernay, we started to get into a methodology to come up with what we think is going to happen in the Duvernay in the future," Preston said. He added that "proven undeveloped" (PUD) wells refer to the five-year outlook in the Duvernay—how many wells are going to be drilled in the next five years. "Contingent" looks five to 15 years out, and "prospective" looks 15-30 years into the future.

"Our PUD methodology is largely based on extrapolating what happened in the past in the Duvernay and bringing that out further. Looking at the Duvernay, we notice the majority of our operators are generally going for eight wells per pad, and these wells generally span three sections."

Using this methodology, analysts expect about 500 wells to be drilled in the Duvernay over the next five years. In terms of reserves, the AER expects around 474 million boe out of those undeveloped and currently developed wells. ➤

TOP PLAYS CONTINUED

ENCANA DUVERNAY BOE PRODUCTION



Source: DOB/Encana Q4 report

"For the contingent methodology, we basically carried it out for one session beyond those sessions that were applied for currently producing or undeveloped wells," Preston added. "We carried it out for that one session beyond that, and again used that eight-thirds methodology—so eight wells per three sections."

On a contingent basis, report authors expect approximately 3,200 wells in the Duvernay for the five-to-15-year timeframe. Adding that into the 500 undeveloped wells totals about 3,700 wells for the Duvernay in the next 15 years. Finally, the prospective evaluation carried out that analysis to two miles beyond the contingent sections. Using that methodology, analysts came up with around 4,500 wells on a contingent basis.

Since condensate is "sort of the preferred fluid right now due to economics and permeability issues," noted Beavis, it helps explain why there is so much activity around Fox Creek. By combining maps showing expected fluid type in the Duvernay with maps showing geological prospectivity, she added, it helps predict future development. "This will bring us into that scenario planning."

Currently, Preston told the CSUR technical luncheon, the AER has not analyzed economics on individual wells in terms of production data, operating expenses and other related topics. "We will be getting more into [individual well economics analysis] as we move on in terms of developing what we think a range of operating costs, or what we think a range of fixed or variable costs, completion costs, tie-in costs, and all that stuff [will be] into the future."

He added: "It will be in future updates—although probably not in the one for this year, but maybe next year."

ENCANA'S DUVERNAY PROGRAM CONTINUES TO GROW

Michael McAllister, executive vice-president of exploration and business development at Encana, said the company plans to spend approximately $65 million in the Duvernay this year.

"This year's program will consume the remainder of the JV [joint venture] carry capital from our partner Brion Energy," he said.

"We currently have four gross rigs running in the play and we expect to complete our drilling program by mid-year. We plan to drill between seven and nine net wells and complete 12–14 net wells with average D&C [drilling and completion] costs of $8.5 million per well."

In the fourth quarter, the company successfully ramped up Duvernay production through the 10-29 processing facility, which was brought online in mid-2016.

On a contingent basis, report authors expect approximately 3,200 wells in the Duvernay for the five-to-15-year timeframe.

Two new wells in the volatile oil window are exceeding expectations and delivered 60-day initial production rates of about 1,500 boe/d with nearly 1,000 bbls/d of condensate.

"The two wells that we recently drilled in the volatile oil window have resulted in a 30 per cent improvement over our type-curve expectations," McAllister said.

"We're optimistic about the longer-term performance of these wells as the production after 60 days is as strong as it was after 30 days."

Encana grew total 2016 production in the Duvernay by 86 per cent compared to 2015. Average 2016 normalized drilling and completion costs were 45 per cent lower than in 2015. ■

majorprojects.alberta.ca

ALBERTA MAJOR PROJECTS

An inventory of private and public sector projects in Alberta valued at $5 million or greater

127 oil & gas, pipeline and industrial projects valued at $176.9B

Alberta Government

Alberta

Alberta Export Expansion Package

The Government of Alberta is supporting more Alberta companies to export to new international markets with several new programs.

Ready to export?

If you're looking to explore new business opportunities around the world, we can help. The **Export Support Fund** provides up to $20,000 to cover costs associated with entering new markets, such as marketing and attending international trade shows.

Need help deciding?

Set your business up for success with an international market entry strategy. The **Export Readiness Micro-Voucher Program** offers up to $5,000 in funding for export experts to create your strategy.

Apply now

For more information on these programs and to apply, visit:
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WHAT'S NEW IN THE **OIL & GAS INDUSTRY**

ALBERTA PREMIER, RACHEL NOTLEY.

Photo: Canadian Press

ALBERTA PREMIER PREPARED TO FIGHT FOR TRANS MOUNTAIN PROJECT

The British Columbia NDP and Green parties have become political blood brothers and are aiming to form a combined slim majority government in the province, creating a spate of increased industry uncertainty as the fate of oil and gas projects, such as Kinder Morgan's proposed Trans Mountain pipeline expansion, hang in the balance.

The pipeline project would bring additional volumes from Alberta to the B.C. West Coast.

On May 29, the two provincial parties announced they would be joining forces, creating a scenario whereby the 16-year incumbent Liberal government, and its support for Trans Mountain, would be on the outside looking in.

And that's despite the project having already received the final go-ahead, after an exhaustive and prolonged review from the federal government via the National Energy Board.

By combining their acquired seats from the May 9 provincial election—the NDP had 41 seats and the Greens had three—the coalition would have majority rule, effectively making NDP leader John Horgan the premier-elect.

With both parties officially ratifying the agreement, Horgan and newly minted cohort Andrew Weaver, leader of the Green party, will hold political sway. And the Trans Mountain expansion, of which both leaders have demonstrated vocal opposition, seems clearly in their crosshairs.

During a press conference in Victoria, Weaver was clear that the proposed Trans Mountain pipeline expansion project was front and centre during negotiations with Horgan and the NDP.

"Obviously, there were some things that are near and dear to my heart and the hearts of my caucus colleagues, as well as to the NDP caucus. So there were negotiations there," Weaver said.

"One of the things that I can say is that the issue of Kinder Morgan is one that I have been heavily invested in.... This issue of Kinder Morgan was one that was critical to us and I think you'll see that reflected in [today's] announcement, assuming that the NDP caucus ratifies."

Alberta Premier Rachel Notley said that as political events unfold in B.C., her government remains strongly committed in its support of the Trans Mountain project, saying the new B.C. government does not have the political power to reverse the federal approval that has been granted.

"Should an accord between the B.C. NDP and the B.C. Green Party result in a John Horgan-led government, I know Mr. Horgan and I will be able to work together on important issues facing our two provinces," she said in a statement.

"It is no secret that we have one important disagreement. As I have said from the beginning, the twinning of the Trans Mountain pipeline is critical not only to Alberta's economy, but to the national economy. And it comes with significant safety measures that will better protect Canada's West Coast and Alberta's commitment to a world-leading climate plan," Notley added.

"Because of that, the National Energy Board and the federal government—which has ultimate responsibility—approved it after a rigorous environmental review."

Notley added that provinces "do not have the right to unilaterally stop projects such as Trans Mountain" that have earned the federal government's approval.

"This is a foundational principle that binds our country together. There are no legal tools available to provinces to stand in the way of infrastructure projects that benefit all Canadians," she said. ■

WHAT'S NEW IN THE **OIL & GAS INDUSTRY** CONTINUED

Photo: trans mountain.com

KINDER MORGAN WON'T BACK DOWN

Kinder Morgan Canada won't make further concessions on its Trans Mountain pipeline expansion, the company's president said June 2, setting the stage for a showdown with British Columbia's potential government-in-waiting.

President Ian Anderson said he is willing to meet with the provincial NDP and Green Party, who have vowed to immediately stop the $7.4-billion development should they oust the Liberals from power through an alliance.

"We'll continue to listen," Anderson said after opening the market Friday morning. "But I don't have any concessions planned for any further discussion at this point."

The $7.4-billion Trans Mountain expansion, which already has federal approval, could begin construction in September. The project would see a current pipeline that runs from Edmonton to Burnaby, B.C., twinned, effectively tripling its capacity to 890,000 bbls/d. ■

PRECISION, LIKE MANY SERVICE COMPANIES, HIRING AGAIN

With plans to add about 700 jobs this summer, the head of Precision Drilling said most positions will be filled by company employees who were laid off earlier this year.

Speaking to reporters following Precision's annual meeting on May 16 in Calgary, president and chief executive officer Kevin Neveu estimated the company will have 60–70 active rigs in western Canada this summer, roughly double the active number last summer. His estimate was based on putting 25 field workers on each of 30 rigs, generating as many as 750 jobs.

"I expect most of those we bring back to work in summer will be [recalled employees], other than a wedge of new [hires]," he explained. "We always want that wedge because we don't want to get caught out with a workforce getting older."

In the first quarter, he said Precision's human resources staff processed 12,000 applications for field jobs. "The numbers for Q2 are about the same," he added. Of the 12,000, only about 15 per cent were interviewed. When the dust cleared, Precision hired roughly 300 workers, although he said the recruitment process will continue through the summer.

While predicting a stable rig count in the United States, Neveu expects a "moderate-to-good" seasonal rebound in Canada this summer, which will generate more work for Precision's Canadian drilling fleet. Currently, he estimated the company has roughly 20 active rigs in western Canada. ■

ORPHAN WELL RECLAMATION GETS PROVINCIAL BOOST

In an effort to speed up the abandonment and reclamation of orphan wells and help get the industry back to work, the Alberta government will provide a $235-million loan to the industry-funded Orphan Well Association (OWA), Premier Rachel Notley announced on May 8.

The $30 million included in the last federal budget will be used to pay the interest on the loan. It will put people back to work as early as this summer and will go toward cleaning up orphan wells over the next three years, she told a news conference at a Carstairs-area farm, the site of an orphaned well and storage tank.

"By using the money from the federal government to backstop a loan this large, we are able to get much more favourable rates than the Orphan Well Association could access on its own," said Notley. "It's a win for landowners, a win for the environment, a win for industry and a win for thousands of Albertans who will benefit from the good jobs that are created."

It's important to note that the loan does not replace the OWA, which will continue to operate as it has in the past, said the premier. "What this loan will do is provide a significant injection into our oilfield and environmental services sector where it is needed now, more than ever, to tackle the growing problem of orphan wells and to create jobs."

The loan, which will be paid back over the next 10 years, is expected to create 1,650 new jobs over three years. Repayment will be funded through the existing orphan fund levy paid by industry and managed on the OWA's behalf by the Alberta Energy Regulator.

The money will be paid back by a doubling of industry levies for the OWA, beginning in 2019. ■

TECHNOLOGY UPDATE

UNIVERSITY, BEAVER DRILLING LAUNCH UNIQUE AVATAR PROGRAM

Beaver Drilling and executive education with the Haskayne School of Business at the University of Calgary have partnered to launch the Avatar program, which is described as "a transformational collaboration that will foster innovative solutions to today's drilling challenges using technology, artificial intelligence (AI) and advanced leadership development."

The co-designed Avatar program is revolutionary in that it prepares leaders not only to take on the challenges of today's rapidly changing drilling industry, but also to thrive in the drilling industry of tomorrow.

The program challenges participants to develop their leadership capacity while becoming innovative thinkers. The first cohort, which includes 16 Beaver Drilling employees, from roughneck to rig manager, began their first in-person, week-long module at the university's downtown campus on May 29.

To support this unique learning journey, participants will receive one-on-one leadership coaching. In addition, to foster integration into daily practice, they will engage in online learning modules and peer learning teams between the in-person modules.

"The only way to realize the structural cost transformation required in today's energy industry is to harness the power of tech, AI and machine learning," said Kevin Krausert, president and CEO of Beaver Drilling.

"Rather than the incremental cost efficiencies already found, the drilling industry needs to unleash the 10X efficiency gains tech has accomplished in manufacturing and other industrial sectors. The Avatar program is really the next exciting step in Beaver Drilling's machine learning systems and demonstrates our continued commitment to delivering a new type of leadership for the drilling industry."

The progressive thinking of the Avatar leadership development program is unique in the drilling space, said Jim Dewald, dean of the Haskayne School of Business.

"It integrates the real-world industry experience with cutting-edge research, technology and innovation—with the goal to empower these individuals to become leaders in one of our province's primary industries," he said. ■

Photo: Trinidad Energy

NEW FRAC FLUID SYSTEM PAYING DIVIDENDS

In a downturn, new technologies can end up between a rock and hard place. Producers may need better production at lower costs, but they are often too risk averse to commit hard-won cash flow to uncertain results.

That Calgary-based Calfrac Well Services has found converts to its new CalVisc frac fluid system during the downturn is a testament to the demonstrable benefits of the technology and to Calfrac's ability to minimize the risks of adoption.

CalVisc trades on two advantages: in the right reservoirs, it improves production compared to established fluid systems and it simplifies surface operations. In November 2016, an RBC Capital Markets report comparing 15 Montney wells positioned a Trilogy Energy well using the CalVisc system at the top of the list as the highest producer in the first 90 days.

Dustin Domres, Calfrac's lead on fracture optimization and division solutions, compared that well's initial oil production to offsetting Montney wells in a five-kilometre radius in 2013-16 and found a 67 per cent improvement over the next best producing well and a 193 per cent improvement over the average based on the first month of production.

Trilogy, a Montney-and Duvernay-focused oil and gas producer, tested a number of different fluid systems in two of its core areas and has since decided to use CalVisc fluid system "on a go-forward basis."

"Switching to Calfrac's CalVisc fluid system has been an integral change to our completion design, which has led to superior production results compared to offset wells in the region," Trilogy's Corey Van Engelen, a drilling engineer, said.

Operational efficiencies at the surface also played into that decision. "The fluid system has simplified the execution of our frac jobs, allowing us to increase pump rates with minimal impact on pumping pressures and decrease heating demand to effectively reduce costs," Van Engelen added. ■

THE ENVIRONMENTAL FILE

INDUSTRY WELCOMES NEW METHANE EMISSIONS REDUCTION PLAN

The Canadian Association of Petroleum Producers (CAPP) said that while it welcomes Ottawa's new plan to reduce the sector's methane and volatile organic compound emissions, it disagrees with the government's assessment that Canada needs to "catch up" with environmental policies in the United States.

"We see this as a huge opportunity to catch up to what the [United States] is doing, but also to ensure we position Canada as a leader," Federal Environment Minister Catherine McKenna said while announcing the plan in Calgary last week.

CAPP says Canada is already a leader in methane reduction.

"Canada's oil and natural gas industry has been outperforming other jurisdictions such as North Dakota, Colorado and California for methane emissions reductions," CAPP executive vice-president Terry Abel said in a statement.

Competitiveness is "top of mind" for the federal government, McKenna said May 24 in Calgary while announcing the new regulations.

The proposed rules would require industry to conserve valuable natural gas by regularly checking and fixing gas leaks and adopting new practices that prevent the gas from being vented into the air during oil and gas production. This includes oil and gas wells and batteries, natural gas processing plants, compressor stations and supporting pipelines.

The regulations, to be phased in between 2020 and 2023, are part of the Pan-Canadian Framework on Clean Growth and Climate Change to reduce methane emissions by 40–45 per cent by 2025.

Abel is confident that the aim to reduce methane emissions by 2025 can be achieved.

"Canada is a leader in reducing methane emissions in the oil and natural gas sector. We are in a position of strength to move ahead by advancing cost-effective technology to reduce emissions." ■

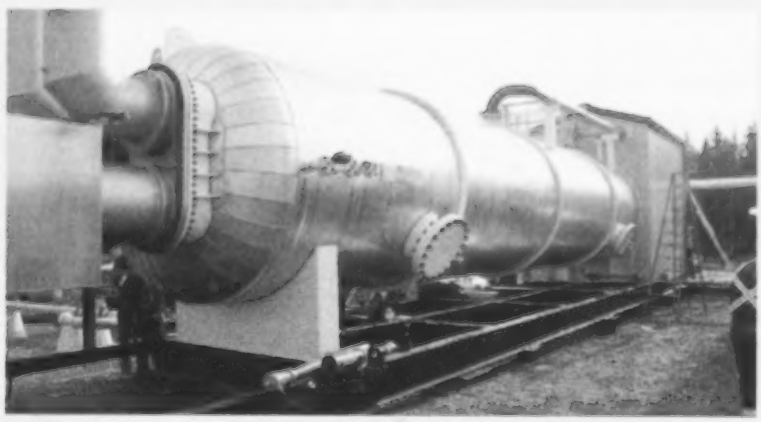


Photo: Canary Energy

CO_2 CONVERSION TECHNOLOGY CENTRE TO MOVE FORWARD

Alberta could find itself becoming an international hub for CO_2-conversion technology with the federal and provincial governments each pitching in $10 million for a new test facility.

The Alberta Carbon Conversion Technology Centre (ACCTC) will be built at the province's largest natural gas–fired power plant, the 860-megawatt Shepard Energy Centre in southeast Calgary. The facility will provide up to 25 tonnes/d of CO_2 for the finalists in the NRG COSIA Carbon XPRIZE.

The 10 finalists to be announced early next year will be able to use the facility to test their inventions at a near-commercial scale. If successful, the technologies would create clean fuels, building materials and consumer products—all from CO_2.

The ACCTC's design and construction will be led by members of Canada's Oil Sands Innovation Alliance and owned and operated by InnoTech Alberta, a subsidiary of Alberta Innovates.

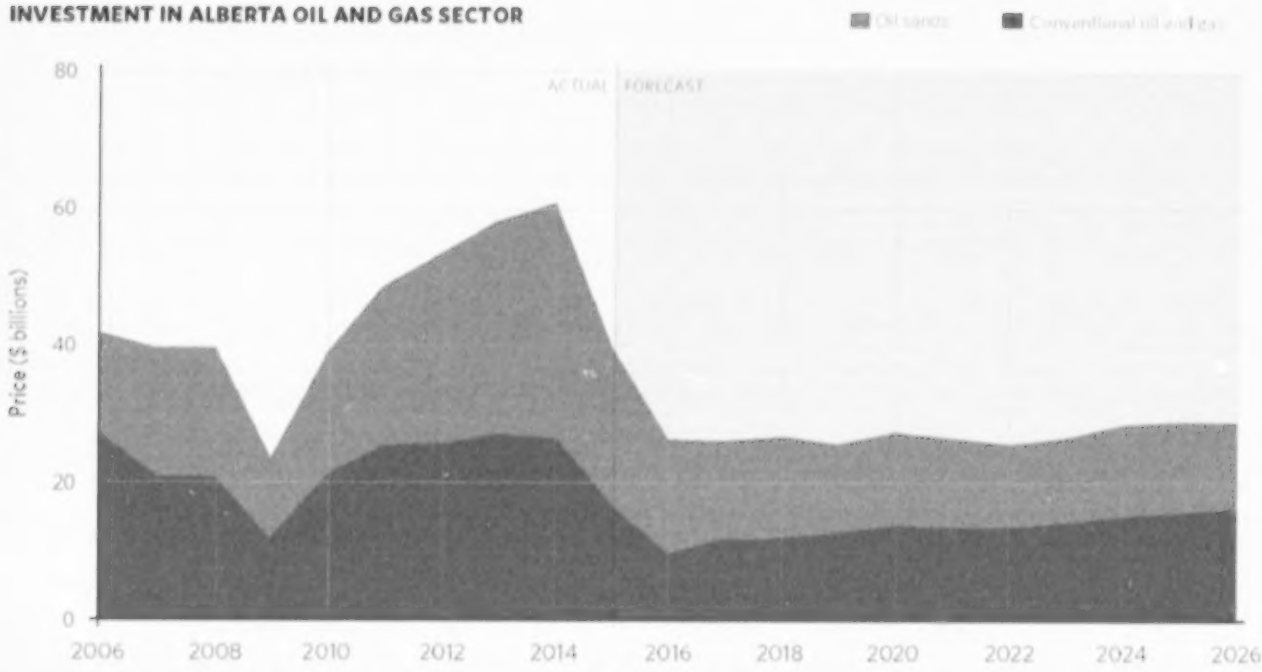
With the XPRIZE and the related test facility, the province is gearing up for the birth of an emerging sector using CO_2 as a feedstock. And it's a sector that holds tremendous promise for both new business opportunities and lowered emissions.

In a November report, *A Roadmap for the Global Implementation of Carbon Utilization Technologies*, CO2 Sciences said products created from the greenhouse gas could net US$800 billion to US$1.1 trillion by 2030 and capture more than 10 per cent of CO_2 emissions in a year. To get there, the report notes, conversion technologies need to be funded, and both the XPRIZE and the ACCTC are steps in doing just that.

"The technology centre here and the sister centre on a coal-fired power plant in Wyoming are really the only places on the planet that are going to be driving rapid innovation forward, enabling those innovators, those technologies, those engineers, those brilliant people to show and prove that we are making this [research and development] possible," said Paul Bunje, principal and senior energy and environment scientist with the XPRIZE Foundation. "This is going to be the hub of something truly transformative." ■

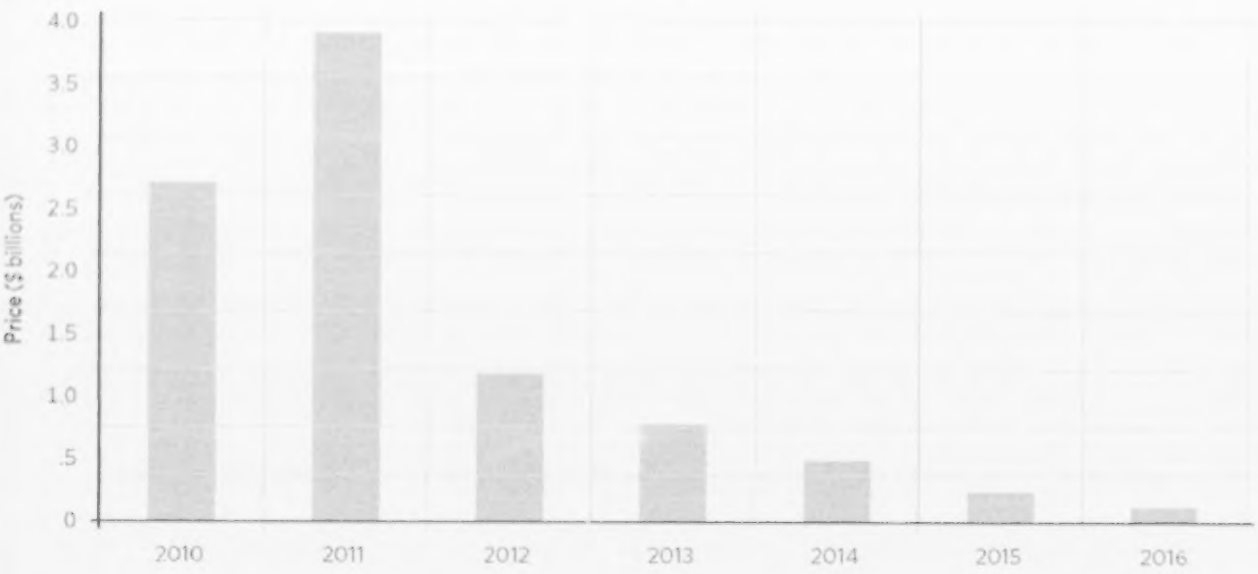
OIL & GAS STATISTICS

INVESTMENT IN ALBERTA OIL AND GAS SECTOR



Historical values sourced from the Canadian Association of Petroleum Producers (figures for 2016 are estimated).

ALBERTA CROWN LAND SALES Petroleum and natural gas rights, excluding oil sands



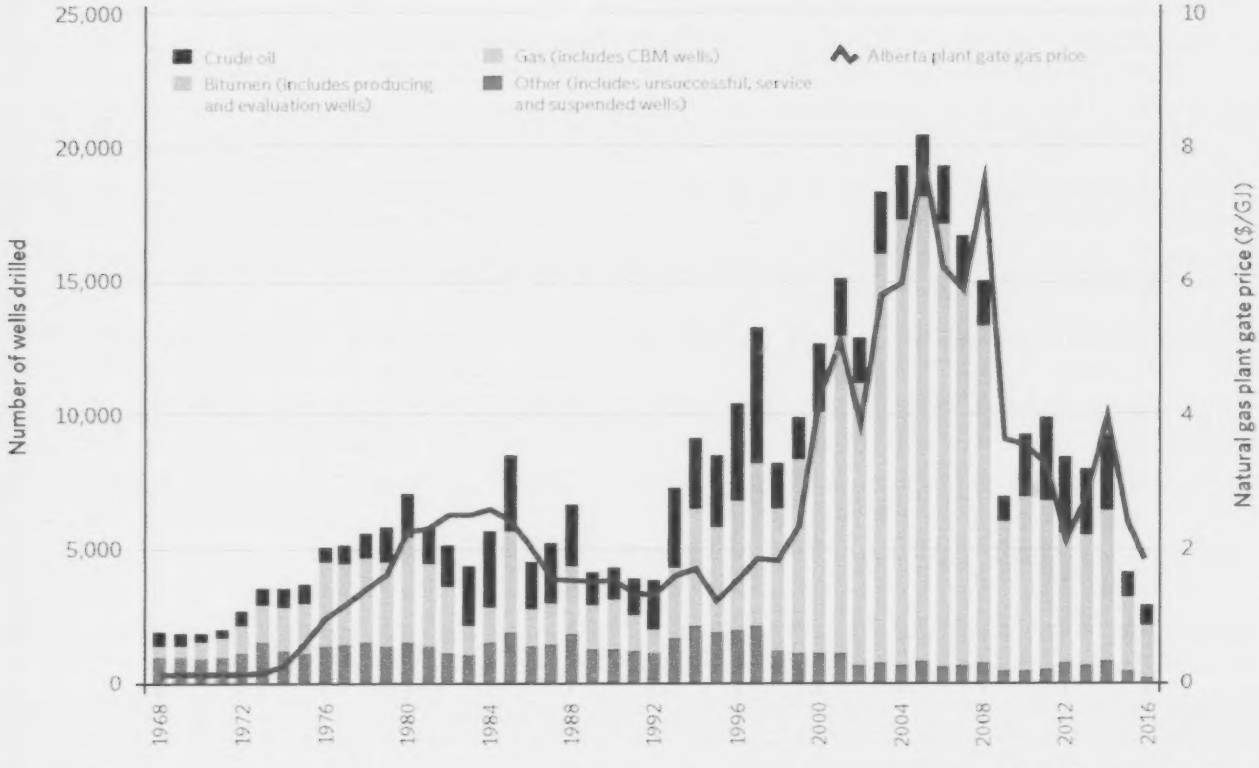
DRILLING RIG COUNT BY PROVINCE/TERRITORY
May 24, 2017

	ACTIVE	DOWN	TOTAL	ACTIVE
Western Canada				(Per cent of total)
Alberta	64	337	441	15%
British Columbia	13	52	65	20%
Manitoba	-	10	10	0%
Saskatchewan	27	93	120	23%
WC total	**104**	**492**	**636**	**16%**

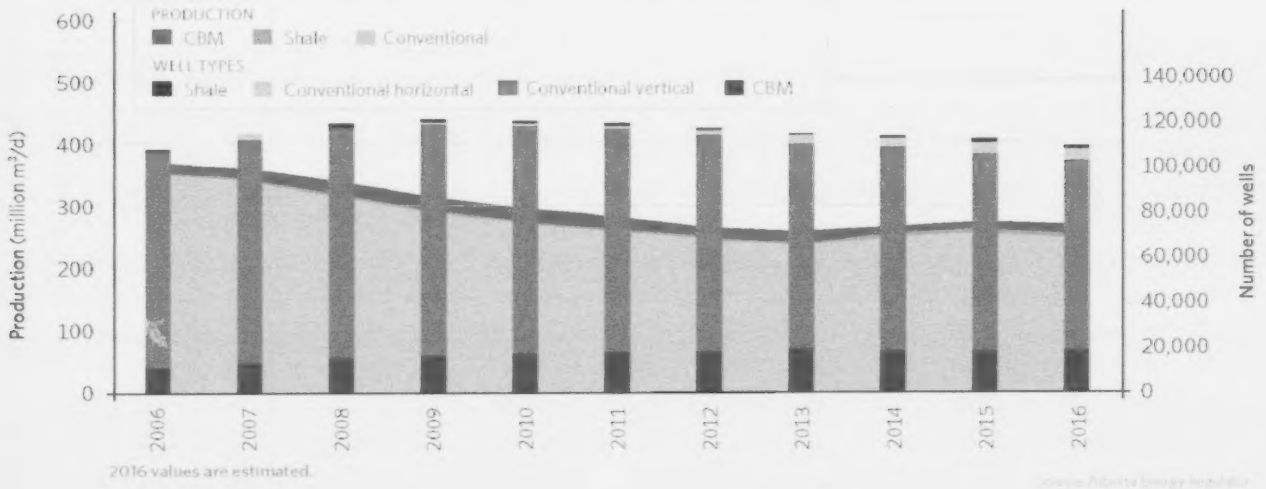
OIL AND GAS WELL COMPLETIONS BY PROVINCE
May 2017

	OIL WELLS		GAS WELLS	
Western Canada	May '16	May '17	May '16	May '17
Alberta	10	121	30	64
British Columbia	-	1	26	36
Manitoba	-	1	-	-
Saskatchewan	17	48	-	-
WC total	**27**	**171**	**56**	**100**

DRILLING ACTIVITY IN ALBERTA, 1968–2016



ALBERTA MARKETABLE GAS AVERAGE DAILY PRODUCTION AND PRODUCING WELLS



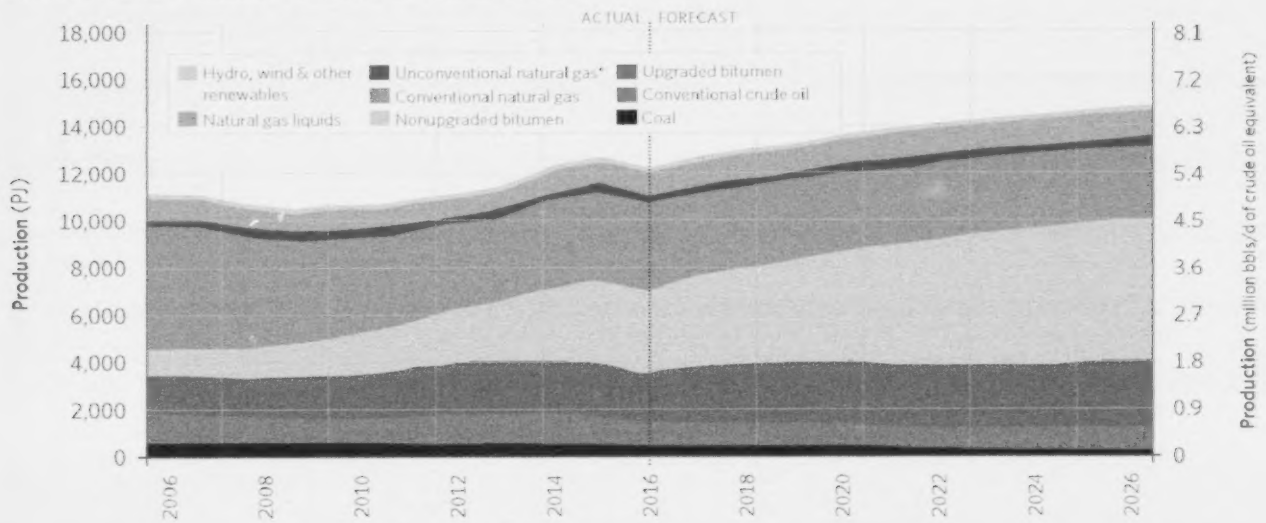
2016 values are estimated.

Source: Alberta Energy Regulator

ALBERTA CRUDE OIL PRODUCTION AND PRODUCING WELLS

Source: Alberta Energy Regulator

TOTAL PRIMARY ENERGY PRODUCTION IN ALBERTA

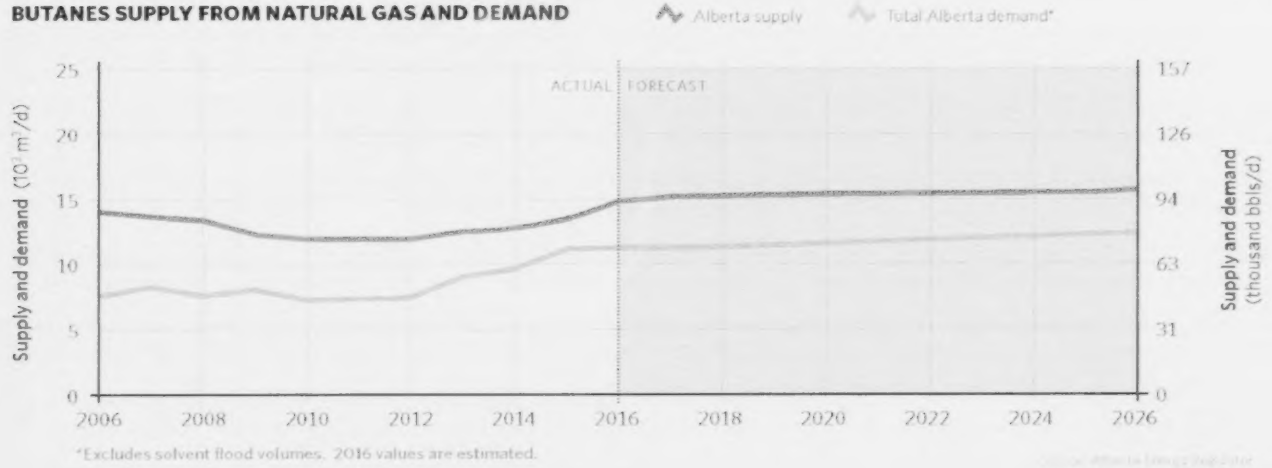


*Includes coalbed methane and shale gas. 2016 values are estimated.

Source: Alberta Energy Regulator

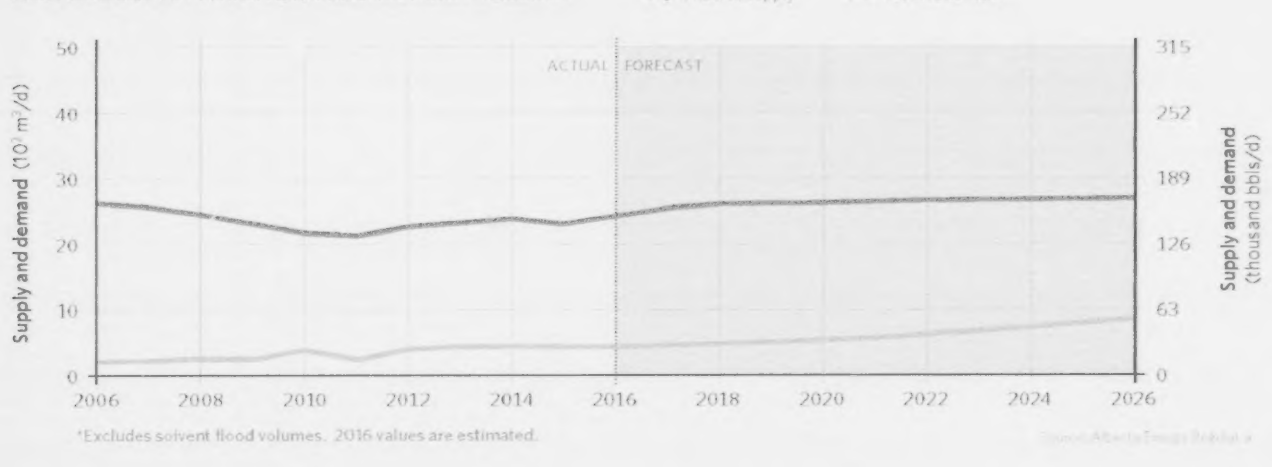
NATURAL GAS LIQUIDS STATISTICS

BUTANES SUPPLY FROM NATURAL GAS AND DEMAND



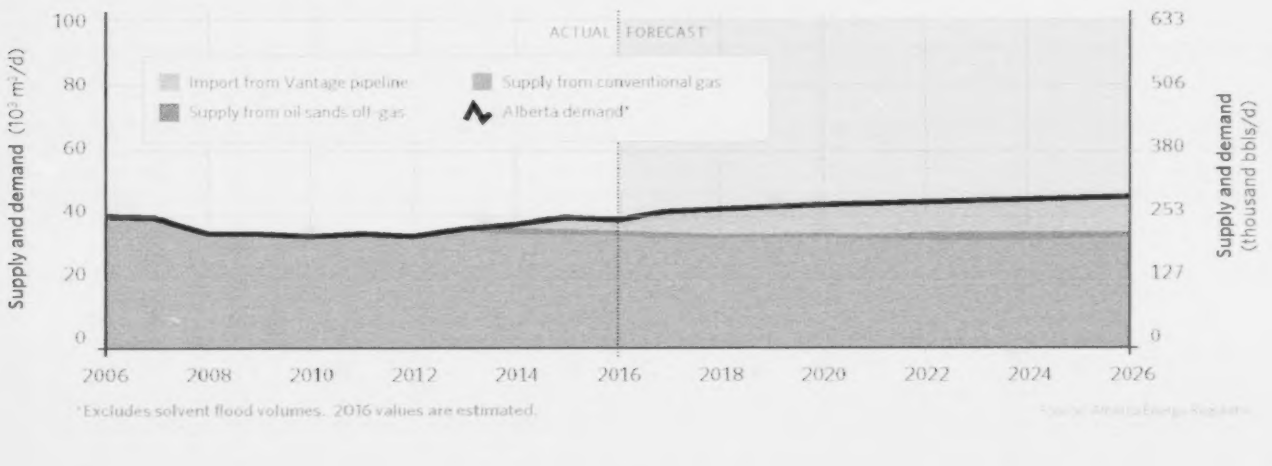
*Excludes solvent flood volumes. 2016 values are estimated.

PROPANE SUPPLY FROM NATURAL GAS AND DEMAND



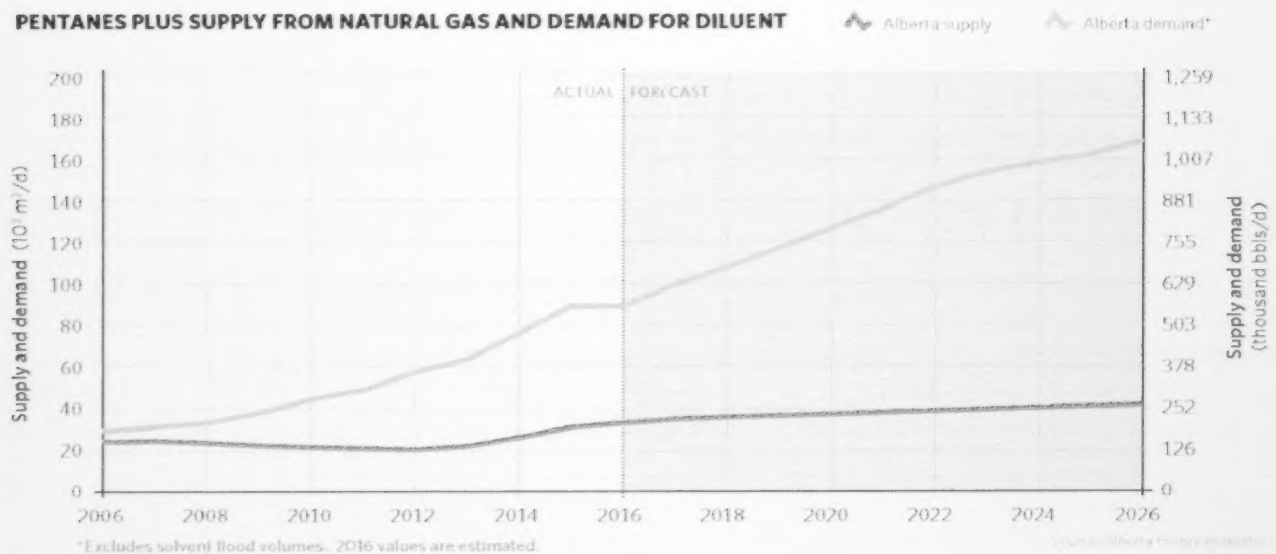
*Excludes solvent flood volumes. 2016 values are estimated.

ETHANE SUPPLY AND DEMAND



*Excludes solvent flood volumes. 2016 values are estimated.

PENTANES PLUS SUPPLY FROM NATURAL GAS AND DEMAND FOR DILUENT



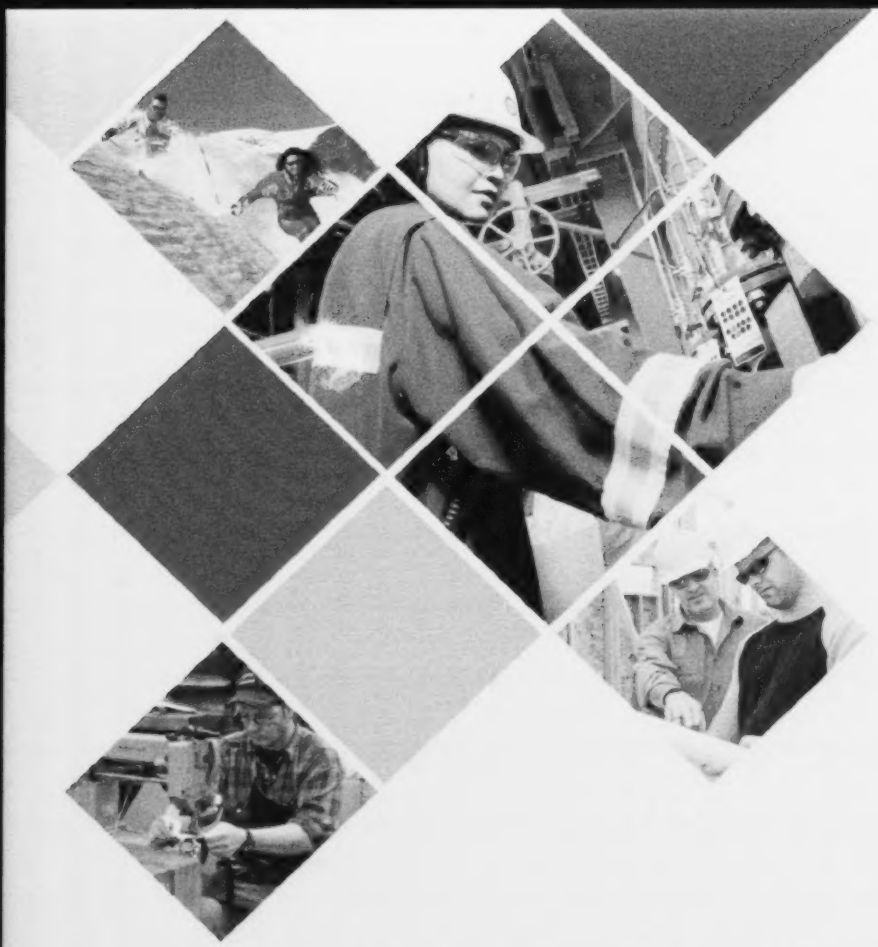
*Excludes solvent flood volumes. 2016 values are estimated.

Source: Alberta Energy Regulator

NORTH AMERICAN NGL PRICES

Note: Mt. Belvieu's field grade butane equivalent value is calculated by adding 70% of the value of the Mt. Belvieu Enterprise normal butane price to 30% of the value of Mt. Belvieu Enterprise isobutane price, to allow for comparison with Edmonton benchmark.

Source: Argus, 2017
www.argusmedia.com



Alberta

Capital Investment Tax Credit (CITC)

Are you an Alberta-based business conducting manufacturing, processing or tourism infrastructure activities? Are you looking to make an investment of at least $1 million in value?

If so, you can apply for a 10 per cent tax credit on eligible capital expenditures, up to a maximum of $5 million.

For more information on how and when to apply for the CITC, visit: jobsplan.alberta.ca or email citc.program@gov.ab.ca

We listened to business leaders' ideas to create the Alberta Jobs Plan. This included implementing new tax credits, providing training for aspiring entrepreneurs, adding supports for established ones, increasing access to capital and cutting the small business tax.

Together, we are creating new jobs, diversifying Alberta's economy and making the lives of Albertans better.

CONTACTS

ALBERTA GOVERNMENT

Alberta Advanced Education
www.advancededucation.alberta.ca

Alberta Economic Development and Trade (EDT)
www.economic.alberta.ca

Alberta Energy
www.energy.alberta.ca

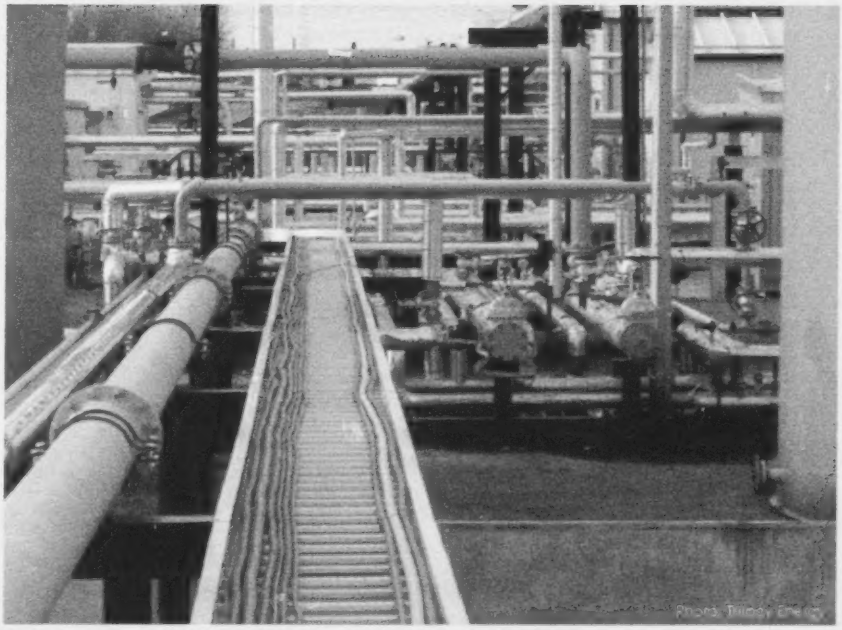
Alberta Energy Regulator
www.aer.ca

Alberta Environment and Parks
www.aep.alberta.ca

Alberta Geological Survey
www.ags.aer.ca

Alberta Innovates
www.albertainnovates.ca

Alberta Surface Rights Board
www.surfacerights.alberta.ca



INDUSTRY ASSOCIATIONS

Alberta Land Surveyors' Association
www.alsa.ab.ca

Canada's Natural Gas
www.canadasnaturalgas.ca

Canadian Association of Geophysical Contractors
www.cagc.ca

Canadian Association of Oilwell Drilling Contractors
www.caodc.ca

Canadian Association of Petroleum Producers
www.capp.ca

Canadian Energy Pipeline Association
www.cepa.com

Canadian Natural Gas Vehicle Alliance
www.cngva.org

Canadian Society for Unconventional Resources
www.csur.com

Canadian Society of Exploration Geophysicists
ww.cseg.ca

Canadian Society of Petroleum Engineers
www.speca.ca

Explorers and Producers Association of Canada
www.explorersandproducers.ca

Gas Processing Association of Canada
www.gpacanada.com

Petroleum Services Association of Canada
www.psac.ca

Petroleum Technology Alliance Canada
www.ptac.org

Photo: Trinidad Drilling

FOR MORE INFORMATION, PLEASE VISIT

www.albertacanada.com

Alberta Government

Feedback, questions and comments on this issue of the *Alberta Oil & Gas Industry Quarterly Update* are welcomed. Please contact editor Paul Wells at **pwells@jwnenergy.com**.

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